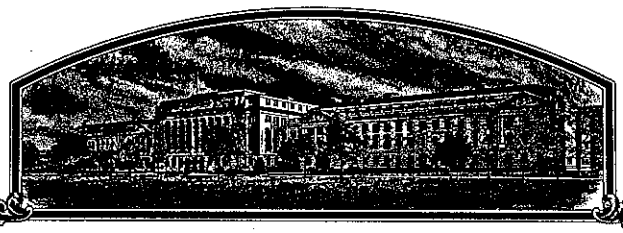
No. 8500156



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Asgrow Seed Co.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF eighteen YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'A1525'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the* Plant Variety Protection Office *to be affixed at the City of* Washington, D. C. *this* 31st *day of* March *in the year of our Lord one thousand nine hundred and* eighty-six.

Attest:

Kenneth A. Evans

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Richard E. Lyng

Secretary of Agriculture

APPROVAL EXPIRES 4-30-85

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

FORM APPROVED: OMB NO. 0581-0055

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION	3. VARIETY NAME
Asgrow Seed Company	XP1584	A1525

4. ADDRESS *(Street and No. or R.F.D. No., City, State, and Zip Code)*	5. PHONE *(Include area code)*	FOR OFFICIAL USE ONLY
9620-190-25 Gull Road, Building 190 Kalamazoo, MI 49001	(616) 385-6605	PVPO NUMBER 8500156

6. GENUS AND SPECIES NAME	7. FAMILY NAME *(Botanical)*	FILING	DATE / TIME
Glycine Max	Leguminosae		DATE 5/29/85 TIME 11:00 [XX] A.M. [ ] P.M.

8. KIND NAME	9. DATE OF DETERMINATION	FEES RECEIVED	AMOUNT FOR FILING / DATE
Soybean	December 1982		$ 1,800 DATE 5/29/85

10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION *(Corporation, partnership, association, etc.)*	FEES RECEIVED	AMOUNT FOR CERTIFICATE / DATE
Corporation		$ DATE

11. IF INCORPORATED, GIVE STATE OF INCORPORATION	12. DATE OF INCORPORATION
Delaware	1968

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS

Mr. John A. Batcha 9620-190-25
Asgrow Seed Company
Gull Road, Building 190
Kalamazoo, MI 49001

PHONE *(Include area code)*: (616) 385-6605

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED

a. [X] Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*
b. [X] Exhibit B, Novelty Statement.
c. [X] Exhibit C, Objective Description of Variety *(Request form from Plant Variety Protection Office.)*
d. [X] Exhibit D, Additional Description of Variety.
e. [X] Exhibit E, Statement of the Basis of Applicant's Ownership.

RFS 6/21/85

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? *(See Section 83(a) of the Plant Variety Protection Act.)* [ ] Yes *(If "Yes," answer items 16 and 17 below)* [X] No

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?	17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
[ ] Yes [ ] No	[ ] Foundation [ ] Registered [ ] Certified

18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?

[ ] Yes *(If "Yes," give date)*
[X] No

19. HAS THE VARIETY BEEN RELEASED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES ?

[ ] Yes *(If "Yes," give names of countries and dates)*
[X] No

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT	DATE
John A. Batcha	April 26, 1985
SIGNATURE OF APPLICANT	DATE

FORM WA-470 (7-84) (Edition of 3-84 is obsolete.)

Asgrow Seed company
PVP Application A1525 Soybean
April, 1985

8500156

EXHIBIT A

Origin and Breeding History of A1525

1976	Cross was made in July, 1976, at Ames, Iowa. PARENTS: A1564*L71L-436
1976-77 (Winter)	F_1 generation grown at Delray Beach, Florida.
1977	F_2 generation grown at Ames, Iowa.
1977-78 (Winter)	F_3 and F_4 generation grown at Delray Beach, Florida.
1978	F_5 generation grown at Ames, Iowa. Two hundred plants were selected from the bulk population and threshed individually.
1979	Progeny row D76578 D79-39354 was selected for its uniformity and maturity. This row was harvested in bulk and seeds were checked and verified for uniform seed coat luster and hilums were found to be segregating yellow and buff.
1980	D76578 D79-39384 was entered in the Preliminary P207 yield tests conducted at Ames and Sheldon, Iowa. It produced uniform stands and was selected for its very high yield and standability.
1981	D76578 D79-39384 was entered in the Strain S100 yield tests which were grown at 6 locations in Iowa and Minnesota. One hundred F_8 plants were pulled in October, 1981, at Ames, Iowa.
1982	D76578 D79-39384 was entered in the Variety V100 yield tests which were grown at 8 locations in Iowa, Illinois and Minnesota. One hundred plant rows were grown at Ames, Iowa. The plant rows were harvested and forty of those plant rows were uniform and had yellow hila seed. In December, 1982, the seed from the forty plant rows were checked and verified for dull seed coat luster & yellow hila and bulked to form XP1584. The bulked breeder seed would be used to increase the seed supply in 1983. It was in December, 1982, that XP1584 was determined to be a stable and unique line.

EXHIBIT A (cont.)

1983	XP1584 was entered in the Variety V100 yield tests which were grown at 10 locations in Iowa, Illinois, Minnesota and Ontario, Canada.
	One hundred pounds of breeder seed of XP1584 was grown on 2 acres near Perry, Iowa, in 1983.
1984	XP1584 was entered in the Variety V100 yield tests which were grown at 12 locations in Iowa, Illinois, Minnesota and Ontario, Canada.
	Foundation seed of XP1584 was grown near Perry, Iowa.
	XP1584 was nominated for release and full production and assigned the designation, A1525.

Trial evaluations in 1983 and 1984 indicate that A1525 is uniform and stable. As with other soybean varieties, variants can occur for almost any characteristic during the course of repeated sexual reproduction.

Asgrow Seed Company
PVP Application A1525 Soybean
April, 1985

8500156

EXHIBIT B

Novelty Statement Concerning A1525 Soybean

To our knowledge the soybean varieties that most closely resemble A1525 are Hodgson 78 and A1564. Characteristics which differentiate A1525 include, but are not necessarily restricted to, the following:

1. Hilum Color:

A1525	= Yellow
A1564	= Yellow
Hodgson 78	= Buff

2. Plant Lodging Score:

A1525	= 1.2
A1564	= 2.4
Hodgson 78	= 2.1
LSD .05	= 0.3

3. Plant Height (cm):

A1525	= 80
A1564	= 88
Hodgson 78	= 81
LSD .05	= 3

4. Hypocotyl Elongation (emergence):

	Percent*	Score**
A1525	88	1.3
A1564	55	3.5
Hodgson 78	18	5.0
LSD .05	21	

*Based on emergence at 10 days when planted 4" deep in pots of sterile sand maintained at 25° C.

**Score based on emergence: 91%+ = 1
71-90% = 2
41-70% = 3
21-40% = 4
20% = 5

A1525 is a mid-Group I maturity variety that has higher yields, better standability and improved emergence over A1564 and Hodgson 78.

FORM APPROVED: OMB NO. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN & SEED DIVISION
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Soybean)

OBJECTIVE DESCRIPTION OF VARIETY
SOYBEAN (Glycine max L.)

NAME OF APPLICANT(S)	TEMPORARY DESIGNATION	VARIETY NAME
Asgrow Seed Company	XP1584	A1525

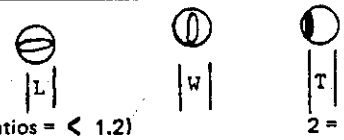
ADDRESS *(Street and No., or R.F.D. No., City, State, and Zip Code)*
9620-190-25
Gull Road, Bldg. 190
Kalamazoo, MI 49001

FOR OFFICIAL USE ONLY
PVPO NUMBER
8500156

Choose the appropriate response which characterizes the variety in the features described below. When the number of significant digits in your answer is fewer than the number of boxes provided, place a zero in the first box when number is 9 or less (e.g., [0][9]).

1. SEED SHAPE:

[2]



1 = Spherical (L/W, L/T, and T/W ratios = < 1.2)
2 = Spherical Flattened (L/W ratio > 1.2; L/T ratio = < 1.2)
3 = Elongate (L/T ratio > 1.2; T/W = < 1.2)
4 = Elongate Flattened (L/T ratio > 1.2; T/W > 1.2)

2. SEED COAT COLOR: (Mature Seed)

[1] 1 = Yellow 2 = Green 3 = Brown 4 = Black 5 = Other *(Specify)* _____

3. SEED COAT LUSTER: (Mature Hand Shelled Seed)

[1] 1 = Dull ('Corsoy 79'; 'Braxton') 2 = Shiny ('Nebsoy'; 'Gasoy 17')

4. SEED SIZE: (Mature Seed)

[1][4] Grams per 100 seeds

5. HILUM COLOR: (Mature Seed)

[2] 1 = Buff 2 = Yellow 3 = Brown 4 = Gray 5 = Imperfect Black 6 = Black 7 = Other *(Specify)* _____

6. COTYLEDON COLOR: (Mature Seed)

[1] 1 = Yellow 2 = Green

7. SEED PROTEIN PEROXIDASE ACTIVITY:

[1] 1 = Low 2 = High

8. SEED PROTEIN ELECTROPHORETIC BAND:

[2] 1 = Type A ($SP1^a$) 2 = Type B ($SP1^b$)

9. HYPOCOTYL COLOR:

[4] 1 = Green only ('Evans'; 'Davis') 2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy')
3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')
4 = Dark Purple extending to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')

10. LEAFLET SHAPE:

[3] 1 = Lanceolate 2 = Oval 3 = Ovate 4 = Other *(Specify)* _____

8500156

11. LEAFLET SIZE:

[2] 1 = Small ('Amsoy 71'; 'A5312') 2 = Medium ('Corsoy 79'; 'Gasoy 17')
3 = Large ('Crawford'; 'Tracy')

12. LEAF COLOR:

[2] 1 = Light Green ('Weber'; 'York') 2 = Medium Green ('Corsoy 79'; 'Braxton')
3 = Dark Green ('Gnome'; 'Tracy')

13. FLOWER COLOR:

[2] 1 = White 2 = Purple 3 = White with purple throat

14. POD COLOR:

[1] 1 = Tan 2 = Brown 3 = Black

15. PLANT PUBESCENCE COLOR:

[1] 1 = Gray 2 = Brown (Tawny)

16. PLANT TYPES:

[1] 1 = Slender ('Essex'; 'Amsoy 71') 2 = Intermediate ('Amcor'; 'Braxton')
3 = Bushy ('Gnome'; 'Govan')

17. PLANT HABIT:

[3] 1 = Determinate ('Gnome'; 'Braxton') 2 = Semi-Determinate ('Will')
3 = Indeterminate ('Nebsoy'; 'Improved Pelican')

18. MATURITY GROUP:

[0][4] 1 = 000 2 = 00 3 = 0 4 = I 5 = II 6 = III 7 = IV 8 = V
9 = VI 10 = VII 11 = VIII 12 = IX 13 = X

19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

BACTERIAL DISEASES:

[0] Bacterial Pustule (*Xanthomonas phaseoli* var. *sojensis*)

[0] Bacterial Blight (*Pseudomonas glycinea*)

[0] Wildfire (*Pseudomonas tabaci*)

FUNGAL DISEASES:

[0] Brown Spot (*Septoria glycines*)

Frogeye Leaf Spot (*Cercospora sojina*)

[0] Race 1 [ ] Race 2 [ ] Race 3 [ ] Race 4 [ ] Race 5 [ ] Other (*Specify*) _____

[0] Target Spot (*Corynespora cassiicola*)

[0] Downy Mildew (*Peronospora trifoliorum* var. *manshurica*)

[1] Powdery Mildew (*Microsphaera diffusa*)

[1] Brown Stem Rot (*Cephalosporium gregatum*)

[0] Stem Canker (*Diaporthe phaseolorum* var. *caulivora*)

19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant) (Continued)

FUNGAL DISEASES: (Continued)

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[0] Pod and Stem Blight *(Diaporthe phaseolorum* var; *sojae)*

[0] Purple Seed Stain *(Cercospora kikuchii)*

[0] Rhizoctonia Root Rot *(Rhizoctonia solani)*

Phytophthora Rot *(Phytophthora megasperma* var. *sojae)*

[2] Race 1 [2] Race 2 [1] Race 3 [1] Race 4 [1] Race 5 [1] Race 6 [1] Race 7

[1] Race 8 [1] Race 9 [ ] Other *(Specify)* _____

VIRAL DISEASES:

[0] Bud Blight (Tobacco Ringspot Virus)

[0] Yellow Mosaic (Bean Yellow Mosaic Virus)

[0] Cowpea Mosaic (Cowpea Chlorotic Virus)

[0] Pod Mottle (Bean Pod Mottle Virus)

[0] Seed Mottle (Soybean Mosaic Virus)

NEMATODE DISEASES:

Soybean Cyst Nematode *(Heterodera glycines)*

[0] Race 1 [0] Race 2 [1] Race 3 [0] Race 4 [ ] Other *(Specify)* _____

[0] Lance Nematode *(Hoplolaimus Colombus)*

[0] Southern Root Knot Nematode *(Meloidogyne incognita)*

[0] Northern Root Knot Nematode *(Meloidogyne Hapla)*

[0] Peanut Root Knot Nematode *(Meloidogyne arenaria)*

[0] Reniform Nematode *(Rotylenchulus reniformis)*

[ ] OTHER DISEASE NOT ON FORM *(Specify):* _____

20. PHYSIOLOGICAL RESPONSES: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

[1] Iron Chlorosis on Calcareous Soil

[ ] Other *(Specify)* _____

21. INSECT REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

[0] Mexican Bean Beetle *(Epilachna varivestis)*

[0] Potato Leaf Hopper *(Empoasca fabae)*

[ ] Other *(Specify)* _____

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant Shape	A1564	Seed Coat Luster	A1564
Leaf Shape	A1564	Seed Size	A1564
Leaf Color	A1564	Seed Shape	A1564
Leaf Size	A1564	Seedling Pigmentation	A1564

7

23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data

VARIETY	NO. OF DAYS MATURITY	PLANT LODGING SCORE	CM PLANT HEIGHT	LEAFLET SIZE		SEED CONTENT		SEED SIZE G/100 SEEDS	NO. SEEDS/ POD
				CM Width	CM Length	% Protein	% Oil		
A1525 Submitted	126	1.2	80	6	11	42.5	19.8	14.4	
A1564 Name of Similar Variety	125	2.4	88	7	12	43.5	19.5	15.4	

PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
2. Buttery, B.R. and R.I. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
3. Hymowitz, T. 1973. Electrophoretic analysis of SBTI-A_2 in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-19.

8500156

EXHIBIT E

Statement of the Basis of Applicant's Ownership

A1525 was originated and developed by John A. Schillinger and Alan K. Walker, Asgrow Plant Breeders. By agreement between employee and Asgrow Seed Company, all rights to any invention, discovery, or development made by an employee are assigned to the Company. No rights to such invention, discovery, or development are retained by the employee.

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